

Texas, Fort Sill, Indian Territory, Omaha, Nebraska, and Huron, Dakota, 60°; Fredericksburg, Texas, 61°; Henrietta, Texas, 62°; Coleman City and Uvalde, Texas, Fort Benton, Montana, and Salt Lake City, Utah, 63°; Fort Apache, Arizona, Graham, Texas, and Fort Smith, Arkansas, 64°; Fort Meade, Dakota, 65°; Forts Elliott and Stockton, Texas, and Deer Lodge, Montana, 67°; Phoenix, Arizona, 68°; Fort Keogh, Montana, Rapid City, Dakota, and Denver, Colorado, 69°; West Las Animas, Colorado, 70°; Dodge City, Kansas, 71°; Fort Custer, Montana, 72°; Eagle Rock, Idaho, 75°; Fort Washakie, Wyoming, 80°; Cheyenne, Wyoming, 81°.

The greatest daily ranges have varied in the different districts, as follows:

New England: From 18° at Provincetown, Massachusetts, on the 11th to 33° on the summit of Mount Washington, New Hampshire, on the 30th.

Middle Atlantic states: From 20° Chincoteague, Virginia, on the 15th, to 30° at Washington, District of Columbia, on the 13th.

South Atlantic states: From 20° at Hatteras, North Carolina, on the 26th, to 29° at Augusta, Georgia, on the 3d.

Florida peninsula: From 14° at Key West, on the 20th, to 24° at Cedar Keys on the 17th, and 39° at Sanford on the 29th.

East Gulf states: From 20° at New Orleans, Louisiana, on the 16th, to 28° at Vicksburg, Mississippi on the 13th, and 28° at Montgomery, Alabama, on the 23d.

West Gulf states: From 20° at Port Eads, Louisiana, on the 16th, to 33° at Fredericksburg, Texas, on the 30th, and 41° at Fort Smith, Arkansas, on the 14th.

Rio Grande valley: From 32° at Brownsville, Texas, on the 13th, to 33° at Eagle Pass, Texas, on the 21st and 22d.

Ohio valley and Tennessee: From 20° at Louisville, Kentucky, on the 16th, to 30° at Indianapolis, Indiana, on the 12th, and 31° at Knoxville, Tennessee, on the 8th.

Lower lake region: From 18° at Sandusky, Ohio, on the 12th, to 26° at Detroit, Michigan, on the 12th.

Upper lake region: From 17° at Duluth, Minnesota, on the 24th, to 32° at Chicago, Illinois, on the 12th.

Extreme northwest: From 28° at Saint Vincent, Minnesota, on the 13th, to 36° at Bismarck and Fort Stevenson, Dakota, on the 30th.

Northern slope: From 20° at Helena, Montana, on the 13th, to 44° at Cheyenne, Wyoming, on the 2d and 44° at North Platte, Nebraska, on the 13th.

Middle slope: From 27° on the summit of Pike's Peak, Colorado, on the 11th, to 51° at West Las Animas, Colorado, on the 15th.

Southern slope: From 30° at Jacksborough, Texas, on the 14th and 15th, to 42° at Fort Sill, Indian Territory, on the 14th.

Southern plateau: From 29° at Fort Grant, Arizona, on the 14th, and 36° at Santa Fé, New Mexico, on the 14th, to 50° at Fort Apache, Arizona, on the 6th.

Middle plateau: From 27° at Salt Lake City, Utah, on the 3d, to 37° at Fort Washakie, Wyoming, on the 12th.

Northern plateau: From 22° at Spokane Falls, Washington Territory, on the 9th and 12th, and 22° at Lewiston, Idaho, on the 28th, to 46° at Fort Missoula, Montana, on the 6th.

North Pacific coast region: From 23° at Portland, Oregon, on the 4th, to 26° at Olympia, Washington Territory, and Roseburg, Oregon, on the 12th.

Middle Pacific coast region: From 14° at San Francisco, California, on the 15th, to 28° at Red Bluff, California, on the 14th.

South Pacific coast region: From 28° at San Diego, California, on the 14th, to 37° at Los Angeles, California, on the 14th.

FROSTS.

In the various districts they were reported on the following dates:

New England: 2d to 6th, 8th to 30th.

Middle Atlantic states: 3d to 9th, 12th, 14th, 15th, 16th, 18th to 30th.

South Atlantic states: 5th to 9th, 13th to 17th, 19th to 30th.

East Gulf states: 6th, 14th, 15th, 16th, 21st, 22d, 23d, 29th, 30th.

West Gulf states: 5th, 12th to 14th, 18th to 25th, 28th, 29th, 30th.

Rio Grande valley: 20th, 21st, 22d, 28th, 29th, 30th.

Tennessee: 5th, 7th, 8th, 13th to 16th, 18th to 25th, 27th to 30th.

Ohio valley: 3d to 9th, 11th to 16th, 18th to 25th, 27th to 30th.

Lower lake region: 1st to 8th, 13th, 14th, 15th, 17th to 21st, 24th, 27th, 30th.

Upper lake region: 1st to 5th, 8th, 9th, 10th, 12th to 30th.

Extreme northwest: 1st to 4th, 6th to 30th.

Upper Mississippi valley: 1st to 4th, 7th, 8th, 9th, 12th to 30th.

Missouri valley: 2d, 3d, 4th, 6th to 24th, 26th to 30th.

Northern slope: 1st to 30th.

Middle slope: 1st, 2d, 4th to 10th, 12th to 15th, 17th to 30th.

Southern slope: 6th, 12th to 15th, 20th, 21st, 27th to 30th.

Southern plateau: 1st to 6th, 10th to 24th, 26th to 30th.

Middle plateau: 2d, 5th to 8th, 10th to 30th.

Northern plateau: 1st to 20th, 23d to 29th.

North Pacific coast region: 4th, 7th to 12th, 15th to 18th, 23d, 24th, 25th, 27th, 28th, 29th.

Middle Pacific coast region: 1st, 4th to 7th, 10th to 15th, 17th to 25th, 28th.

South Pacific coast region: 2d, 19th, 22d.

ICE.

The subject of the formation of ice in the northern sections, is considered elsewhere in the REVIEW, under the heading ICE IN RIVERS AND HARBORS. The following are exceptional cases of ice formation in the southern sections of the country.

Alabama: Auburn, 14th, 29th, 30th; Mobile, 30th.

Arizona: Wickenburg, 13th.

Arkansas: Fort Smith, 13th, 29th, 30th.

California: Princeton, 11th.

Florida: Pensacola, 30th.

Georgia: Atlanta, 22d; Savannah, 30th.

Louisiana: Shreveport, 13th.

Mississippi: Fayette, 29th; Vicksburg, 14th.

North Carolina: Charlotte, 30th; Fort Macon, 30th; Kittyhawk, 15th, 25th, 26th; Smithville, 22d.

Oregon: Portland, 10th, 11th.

South Carolina: Stateburg, 23d.

Tennessee: Ashwood, 7th, 13th, 14th; Austin, 13th, 14th, 21st, 22d, 23d; Knoxville, 14th; Memphis, 3d, 4th, 28th, 29th; Nashville, 14th.

Texas: Coleman City, 13th, 29th, 30th; Denison, 29th, 30th; Fort Concho, 13th, 14th, 30th; Fort Davis, 17th to 20th; Indianola, 30th; Palestine, 30th.

Virginia: Johnstown, 15th, 18th to 22d, 26th; Norfolk, 26th; Variety Mills, 26th.

PRECIPITATION.

(Expressed in inches and hundredths.)

The distribution of rainfall over the United States and Canada, as determined from observations taken at more than six hundred stations, is exhibited on chart iii. The table in the lower left-hand corner of this chart shows the average monthly rainfall, determined from the records of Signal Service stations, in the several districts, it shows also the excess or deficiency of precipitation as compared with the average of many years.

In California, and over the southern part of the country from Arizona to the Mississippi river, in Florida, and in the extreme northwest, the rainfall has been greater than the November average. In northern California, the excess amounts to 2.13; the southern slope, 1.34; and in other districts named, it varies from 0.05 in southern California, to 0.87 in the Rio Grande valley. Throughout the rest of the country, there has been a deficiency in the monthly rainfall. The largest deficiencies occurred as follows: 2.98 in New England; 2.38 in the north Pacific coast region; 2.41 in the middle Atlantic states; and 1.90 in the east Gulf states. In all other districts, embraced in the area of de-

iciency, the departures from the monthly average vary from 0.06 in the upper Mississippi valley and 0.08 in the Missouri valley to 0.73 in the lower lake region and 0.89 in the Ohio valley.

DEVIATIONS FROM AVERAGE PRECIPITATION.

Under this heading, departures exhibited by the regular Signal Service stations are shown in the table of comparative monthly rainfalls, as published in the lower left-hand corner of chart iii. The following items of interest in connection with this subject are reported by voluntary observers:

Illinois: Riley, monthly precipitation 1.52, or 0.38 below the November average of the last twenty-one years. The total precipitation for the autumn of 1882, is 0.04 below the average of the same period.

Indiana: Logansport, monthly precipitation, 3.03, is slightly above the November average of the last twenty-three years. During that period, the largest November precipitation, 6.30, occurred in 1864; the smallest, 0.41, occurred in 1861. The largest November snowfall, eighteen and one-half inches, fell during the entire month.

Iowa: Iowa City, the following extract is taken from "Press Bulletin," number 115, for November, 1882, published by Dr. Gustavus Hinrichs, Director of the Iowa Weather Service: The rainfall of the month was above the normal over a belt of country extending across the state from southwest to northeast. In the northwestern part of the state it was normal, while in the southeastern section it was decidedly below the normal.

Clinton, monthly precipitation 1.40, or 0.88 below the November average.

Kansas: Wellington, monthly precipitation 1.65, or 0.39 above the average of the last three years. During that period, the largest November precipitation, 1.98 inches, occurred in 1881; the smallest, 0.70, occurred in 1880; the total precipitation for the eleven months ending November 30th, 35.33, or 6.66 above the average of the corresponding months of the past three years. Lawrence, monthly precipitation 2.08, or 0.01 below the November average of the last fifteen years. During that period, the largest monthly precipitation, 5.15, occurred in 1879; the least, 0.01, occurred in 1872. The total precipitation for the eleven months ending November 30th, 26.36, or 6.77 below the average of the corresponding months of the last fourteen years.

Maine: Gardiner, monthly precipitation, 1.14, is the least November precipitation that has occurred during the past forty-six years, and is 3.23 below the average of the same period. With the exception of the present year, the least November precipitation, 2.56, occurred in 1856.

Maryland: Fallston, monthly precipitation 0.47, or 3.49 below the November average of the last twelve years. During that period, the largest November precipitation, 10.27, occurred in 1877; the least, with the exception of the present year, occurred in 1879.

Massachusetts: Worcester, monthly precipitation 1.23, or 2.62 below the November average; the total precipitation for the eleven months ending November 30th, 41.53, or 1.11 below the average of the corresponding months of previous years.

Missouri: The Missouri Weather Service reports the monthly precipitation at Saint Louis to be about 3.00, which is the normal value for November.

New Hampshire: Grafton, monthly precipitation, 0.86, is the smallest November precipitation that has occurred during the last four years.

New York: North Volney, monthly precipitation 1.45, or 2.45 below the average of the last ten years. During that period the largest November precipitation, 5.65, occurred in 1880; the smallest, 2.38, (with the exception of the present year,) occurred in 1872. The total precipitation for the autumn of 1882 is 5.40, which is 4.38 below the average of the last ten years. During that period the largest autumnal precipitation, 12.35, occurred in 1873; the smallest, 8.37, (with the exception of the present year,) occurred in 1881. Palermo, monthly precipitation, 0.74, or 2.80 below the average of the last twenty-

Table of Excessive, Greatest and Least Monthly Rainfalls.

STATION.	SPECIAL HEAVY.			Largest Monthly.	SMALLEST MONTHLY.	
	Date.	Amt.	Duration		STATION.	Amt.
<i>Arkansas.</i>					<i>Arizona.</i>	
Little Rock.....	12	1.83		6.17	Casa Grande.....	0.00
Mount Ida.....				5.70	Maricopa.....	0.00
<i>California.</i>					Yuma.....	0.08
Alta.....				5.64	Texas Hill.....	0.12
Red Bluff.....	2, 3	4.06			San Simon.....	0.30
Alcatraz Island.....	1, 2	3.87			<i>California.</i>	
Angel Island.....	2, 3	3.85			Mojave.....	0.00
San Francisco.....	2, 3	3.48			Tehachapi.....	0.18
Point San José.....	2, 3	3.04			Colton.....	0.19
Benicia Barracks.....	2, 3	2.65			Mammoth Tank.....	0.20
<i>Florida.</i>					Havenna.....	0.24
Jacksonville.....				6.70	Keene.....	0.25
Fort Barrancas.....	26, 27	3.16	21 h.		Grafton.....	0.28
Pensacola.....	26, 27	2.57			San Diego.....	0.39
Cedar Keys.....	1	1.20	2h. 15m.		Summer.....	0.42
<i>Georgia.</i>					<i>Colorado.</i>	
Augusta.....	20, 21	2.66			West Las Animas.....	0.01
<i>Illinois.</i>					Pike's Peak.....	0.22
Anna.....				6.04	Fort Garland.....	0.36
Oslo.....				5.96	<i>Dakota.</i>	
<i>Louisiana.</i>					Fort Randall.....	1.00
Shreveport.....	26, 27	3.71		8.62	Fort Meade.....	0.16
<i>Michigan.</i>					Smithville.....	0.20
Traverse City.....	11	4.02			Olivet.....	0.26
Northport.....	10, 11	3.30			Fort Buford.....	0.29
Do.....	13	2.45			Fort Stevenson.....	0.31
Alpena.....	11	2.26			Fort Yates.....	0.32
<i>Mississippi.</i>					Fort Sully.....	0.40
Starkville.....	26, 27	3.64		7.43	Fort A. Lincoln.....	0.45
Do.....	19, 20	2.19			Bismarck.....	0.46
<i>Missouri.</i>					Fort Bennett.....	0.50
Springfield.....	8, 9	3.35		6.30	Fort Hale.....	0.50
Curryville.....				5.81	Morristown.....	0.50
Pierce City.....				5.60	<i>Idaho.</i>	
<i>New York.</i>					Boise City.....	0.08
White Plains.....				5.75	Coeur d'Alene.....	0.29
<i>North Carolina.</i>					Eagle Rock.....	0.49
Kittyhawk.....	28, 29	3.87			<i>Iowa.</i>	
Hatteras.....	28	3.05			Nora Springs.....	0.30
Fort Macon.....	28	2.41			<i>Kansas.</i>	
<i>Oregon.</i>					Clay Centre.....	0.07
Portland.....				7.11	Salina.....	0.09
<i>Texas.</i>					Dodge City.....	0.11
Palestine.....	25, 26	2.95		8.63	<i>Maryland.</i>	
New Ulm.....				7.63	Fort McHenry.....	0.06
Brownsville.....	13	2.60			Woodstock.....	0.10
<i>Virginia.</i>					Fallston.....	0.47
Richmond.....					Owings Mills.....	0.49
<i>Washington.</i>					<i>Massachusetts.</i>	
Seattle.....					Dudley.....	0.46
<i>Montana.</i>					<i>Montana.</i>	
New Chicago.....					New Chicago.....	0.04
Deer Lodge.....					Deer Lodge.....	0.08
Fort Custer.....					Fort Custer.....	0.16
Helena.....					Helena.....	0.16
Fort Assiniboine.....					Fort Assiniboine.....	0.16
Fort Keogh.....					Fort Keogh.....	0.19
Glendive.....					Glendive.....	0.20
Fort Shaw.....					Fort Shaw.....	0.30
Fort Beaton.....					Fort Beaton.....	0.39
Fort Maginnis.....					Fort Maginnis.....	0.40
Terry's Landing.....					Terry's Landing.....	0.43
Cartersville.....					Cartersville.....	0.48
Poplar River.....					Poplar River.....	0.48
<i>Nebraska.</i>					<i>Nebraska.</i>	
Fort Niobrara.....					Fort Niobrara.....	0.00
North Platte.....					North Platte.....	0.01
Lincoln.....					Lincoln.....	0.33
Genoa.....					Genoa.....	0.36
<i>Nevada.</i>					<i>Nevada.</i>	
Elko.....					Elko.....	0.04
Otago.....					Otago.....	0.05
Halleck.....					Halleck.....	0.10
Battle Mountain.....					Battle Mountain.....	0.15
Tecoma.....					Tecoma.....	0.25
Wadsworth.....					Wadsworth.....	0.25
Reno.....					Reno.....	0.40
Hot Springs.....					Hot Springs.....	0.41
<i>Utah.</i>					<i>Utah.</i>	
Kelton.....					Kelton.....	0.00
Terrace.....					Terrace.....	0.00
Corinne.....					Corinne.....	0.15
Ogden.....					Ogden.....	0.37
<i>Wyoming.</i>					<i>Wyoming.</i>	
Cheyenne.....					Cheyenne.....	0.06
Fort Bridger.....					Fort Bridger.....	0.48

nine years, and is the smallest for any November during that period. The largest November precipitation, 8.30, occurred in 1863. The monthly snowfall, 5 inches, is 3.80 below the November average. During the last twenty-nine years the largest November snowfall, 39 inches, fell in 1830; the smallest, 2 inches, fell in 1879.

Vermont: Woodstock, monthly precipitation 0.61, or 2.39 below the November average of the last 14 years. During that period the largest November precipitation, 4.95, occurred in 1877; the smallest is that of the present year.

West Virginia; Helvetia, monthly precipitation 2.76, or 1.86 below the November average of the past six years.

The following table shows the greatest and least numbers of rainy and cloudy days, and percentages of mean relative humidity, as reported from the various districts:

Table of rainy and cloudy days and relative humidity for November, 1882.

Districts.	Rainy days	Cloudy days.	Relative humidity.*
	From 6 to 16	From 5 to 13	Percentages.
New England.....	From 7 " 14	" 5 " 13	From 61.3 to 77.1
Middle Atlantic states.....	" 4 " 11	" 6 " 11	" 62.5 " 79.9
South Atlantic states.....	" 4 " 7	" 2 " 3	" 66.0 " 76.3
Florida peninsula.....	" 6 " 11	" 4 " 9	" 71.9 " 78.0
East Gulf states.....	" 5 " 13	" 3 " 14	" 69.1 " 77.0
West Gulf states.....	" 5 " 9	" 5 " 8	" 67.5 " 77.8
Rio Grande valley.....	" 9 " 19	" 7 " 14	" 61.8 " 76.5
Ohio valley and Tennessee.....	" 15 " 19	" 12 " 18	" 62.8 " 76.5
Lower lake region.....	" 12 " 19	" 12 " 21	" 68.4 " 78.9
Upper lake region.....	" 9 " 13	" 5 " 13	" 74.7 " 83.7
Extreme northwest.....	" 9 " 16	" 9 " 14	" 75.8 " 84.5
Upper Mississippi valley.....	" 2 " 13	" 3 " 11	" 68.1 " 80.4
Missouri valley.....	" 1 " 9	" 1 " 6	" 64.5 " 77.5
Northern slope.....	" 1 " 5	" 1 " 3	" 58.1 " 71.2
Middle slope.....	" 6 " 8	" 5 " 9	" 60.9 " 75.3
Southern slope.....	" 1 " 9	" 2 " 8	" 63.4 " 75.2
Southern plateau.....	" 4 " 7	" 3 " 4	" 48.7 " 60.3
Middle plateau.....	" 1 " 15	" 1 " 14	" 47.8 " 71.1
Northern plateau.....	" 12 " 17	" 11 " 14	" 67.1 " 83.9
North Pacific coast region.....	" 7 " 11	" 4 " 7	" 76.7 " 82.1
Middle Pacific coast region.....	" 3 " 6	" 3 " 6	" 76.9 " 77.7
South Pacific coast region.....			" 45.1 " 77.6

* Relative humidity corrected for altitude.

HAIL.

Cairo, Illinois, 9th: A very heavy wind storm, accompanied by thunder and hail, occurred between 11.30 and 11.45 p. m. The hail-stones were about the size of grapes, and caused slight damage, chiefly in breaking window-glass.

Palestine Texas, 6th: During a thunder-storm, a heavy shower of hail fell from 2.00 to 2.10 p. m.

Fort Apache, Arizona, 16th: A heavy fall of hail occurred during the evening of this date.

Fort Scott, Kansas, 4th: Hail storm with violent thunder and lightning; hail fell for five minutes, covering the ground.

Burlington, Vermont, 24th.

Cape Mendocino, California, 1st, 21st.

Fort Union, New Mexico, 8th.

Anna, Illinois, 10th.

Vevay, Indiana, 13th.

Nora Springs, Iowa, 10th, 11th.

Clay Centre, Kansas, 16th.

Fort Scott, Kansas, 4th.

Cornish, Maine, 8th.

Somerset, Massachusetts, 29th.

Lansing, Michigan, 12th.

Northport, Michigan, 2d.

Nebraska City, Nebraska, 11th.

College Hill, Ohio, 13th.

SNOW.

The dates on which snow fell in the various districts are as follows:

New England: 1st to 5th, 7th, 8th, 9th, 13th, 14th, 16th, 17th, 18th, 20th, 23d to 30th.

Middle Atlantic states: 7th, 14th, 17th to 20th, 24th to 30th.

Ohio valley: 13th, 18th, 19th, 24th to 30th,

Lower lake region: 13th, 14th, 16th, 17th, 19th, 20th, 22d to 30th.

Upper lake region: 1st, 2d, 3d, 11th to 30th.

Extreme northwest: 1st, 2d, 4th, 5th, 9th to 12th, 14th to 17th, 20th, 22d to 28th, 30th.

Upper Mississippi valley: 12th, 13th, 14th, 17th, 22d, 23d, 25th to 29th.

Missouri valley: 1st, 5th, 10th, 11th, 12th, 15th, 16th, 17th, 19th, 22d, 23d, 26th to 29th.

Northern slope: 1st, 2d, 4th, 9th, 10th, 11th, 14th to 17th, 22d, 24th to 27th.

Middle slope: 10th, 11th, 12th, 15th to 19th.

Southern slope: 17th, 18th, 19th.

Southern plateau: 9th to 12th, 15th to 18th, 24th, 25th.

Middle plateau: 9th, 10th, 11th, 14th, 15th.

Northern plateau: 1st, 2d, 3d, 9th, 10th, 13th, 14th, 15th, 18th to 22d, 24th, 25th, 26th.

The following are exceptional cases of snowfall in Southern states:

Alabama: Montgomery, 9th.

California: Fort Bidwell, 2d, 26th.

Georgia: Atlanta, 20th, 29th; Augusta, 20th, 21st.

Mississippi: Starkville, 29th, light flurry of snow from 8.10 to 8.45 a. m.

North Carolina: Lenoir, 28th; Weldon, 28th; Cape Lookout, 21st.

Oregon: Roseburg, 1st, snow observed on mountains west of station.

South Carolina: Stateburg, 30th.

Tennessee: Austin, 29th; Murfreesboro, 29th.

Texas: Denison, 19th, 20th.

LARGEST MONTHLY SNOWFALLS.

[Expressed in inches.]

The following are the largest monthly snowfalls reported from the various states and territories during the month:

California: Summit, 39½; Cisco, 37½; Emigrant Gap, 21½; Berryvale, 13.

Colorado: Pagosa Springs, 24; Denver, 7.

Connecticut: Southington, 15½; New London, 15; New Haven, 10½.

Dakota: Fort Stevenson, about 6; Huron, 3.

Delaware: Delaware Breakwater, 5.

Idaho: Eagle Rock, 4.

Illinois: Springfield, about 7; Morrison, 5; Polo, 3½.

Indiana: Wabash, 8; Logansport, 8; Fort Wayne, 7; Lafayette, 6.

Iowa: Ames, 5; Keokuk, 4½; Cresco, 4; Clinton, 4.

Kansas: Salina, 5.

Maine: Cornish, 8; Eastport, 6½; Portland, 6; Gardiner, 5½; Dexter, 3.

Maryland: Fallston, 5½; Cumberland, 5; Sandy Springs, 4½.

Massachusetts: South Lee, 21; Somerset, 13; Provincetown, about 13; Westborough, 12; Princeton, 11½; Charleston, 10½; Springfield, 10½; Boston, 10; Fall River, 10; Menden, 10; Milton, 10; Worcester, 9½; Amherst, 7½; Fort Warren, 6½; New Bedford, 5½; Rowe, 5; Dudley, 4.

Michigan: Mackinac City, 19½; Port Huron, 13; Traverse City, 10; Marquette, 7½; Escanaba, 5; Kalamazoo, 5; Thornville, 5; Marshall, 4½; Lansing, 3½; Detroit, 3.

Minnesota: Moorhead, 20; Minneapolis, 7½; Northfield, 7½; Saint Vincent, 5; Duluth, 4.

Missouri: Saint Louis, 4.

Montana: Fort Ellis, 7; Fort Benton, 4.

Nevada: Boca, 9; Truckee, 6.

New Hampshire: Mount Washington, 15½; Antrim, 10; New Market, 9½; Contoocookville, 9; Auburn, 8.

New Jersey: Paterson, 21; South Orange, 12; Phillipsburg, 10½; Freehold, 7½; Cape May, about 5½; Moorestown, 5½; Sandy Hook, about 4; Vineland, 3.

New Mexico: Santa Fé, about 7.

New York: White Plains, 22; Ardenia, 19; Nile, 19; Rochester, 18; Port Jervis, 17; Oswego, 14½; Flushing, 14; New York City, 12½; Factoryville, 10½; Buffalo, 10; Albany, 9; Penn Yan, 8½; Johnstown, 8½; Cooperstown, 7½; Ithaca, 7; North Volney, 6½; Hector, 5; Palermo, 5.

Ohio: Margaretta, 11½; New Riegel, 10½; Columbus, about 9; Cleveland, 8; Marion, 8; Ruggles, 7½; Sandusky, 6½; New Athens, 5½; North Lewisburg, 5½; Cincinnati, 4; Toledo, 4; Westerville, 4; College Hill, 3.

Pennsylvania: Blooming Grove, 15½; Dyberry, about 14; Erie, 9; Fallsington, 8½; Philadelphia, 6; Williamsport, 6; Wellsboro, 6; Pittsburg, 5½; West Chester, 5½; Catawissa, 4½.

Vermont: Woodstock, 5; Lunenburg, 3.

Virginia: Wytheville, 3.

West Virginia: Helvetia, 7½.

Wisconsin: Manitowoc, 9½; Franklin, 5½; Ripon, 4½; Madison, 3½; Milwaukee, about 3.

DEPTH OF UNMELTED SNOW ON GROUND AT END OF THE MONTH.

[Expressed in inches.]

Connecticut: Southington, 10; New London, 7½; New Haven, 6.

Dakota: Fort Stevenson, 1; Fort Buford, 1; Fort Bennett, trace; Bismarck, trace; Wicklow, trace.

District of Columbia: West Washington, 2; Washington, ½.

Illinois: Polo, 2; Springfield, 2; Charleston, 1; Champaign, 1½; Morrison, ½; Cairo, trace; Chicago, trace.

Indiana: Wabash, 5; Logansport, 3; La Fayette, 2.

Iowa: Keokuk, 1½; Cedar Rapids, trace; Davenport, trace; Guttenburg, trace.

Maine: Cornish, 6; Gardiner, 4½; Eastport, 4½; Portland, 4.

Maryland: Cumberland, 2; Fallston, 2; Sandy Springs, 2; Emmitsburg, ½; Baltimore, trace.

Massachusetts: Fall River, 6; Somerset, 6; Westborough, 5; Springfield, 4½; Boston, 4; Charleston, 4; Fort Warren, 4; Milton, 3; Williamstown, 3; Worcester, 2; Dudley, 1; Amherst, ½.

Michigan: Marquette, 4; Northport, 3½; Alpena, 2; Litchfield, 2; Mackinac City, 2; Thornville, 2; Escanaba, 1½; Lansing, 1; Port Huron, 1; Grand Haven, ½; Detroit, trace.

Minnesota: Minneapolis, 4; Moorhead, 3; Northfield, 3; Saint Paul, 2½; Duluth, 1½; Saint Vincent, 1.

Missouri: Saint Louis, 2½.

Montana: Fort Keogh, 1.

New Hampshire: Grafton, 6½; Mount Washington, 6; New Market, 5; Auburn, 4.

New Jersey: South Orange, 7; Paterson, 6; Freehold, 5; Moorestown, 3; Vineland, 3; Sandy Hook, ½; Atlantic City, trace.

New Mexico: Santa Fé, trace to 4.

New York: Ardenia, 12; White Plains, 12; Flushing, 11; Factoryville, 10; Nile, 10; Rochester, 9; Port Jervis, 8; Ithaca, 6; Cooperstown, 6; North Volney, 5½; New York City, 5; Oswego, 5; Buffalo, 4; Johnstown, 4; Albany, 3; Hector, 3; Penn Yan, 3; Palermo, 1½.

Ohio: Ruggles, 5; New Riegel, 4½; Cleveland, 4; Toledo, 3; Marion, 2; New Athens, 2; Westerville, 2; Columbus, 1; North Lewisburg, 1; Sandusky, 1; Bethel, ½; College Hill, trace.

Pennsylvania: Grampian Hills, 6½; Dyberry, 5; Fallsington, 4; Erie, 5; West Chester, 3½; Catawissa, 3; Williamsport, 3; Wellsboro, 2½; Philadelphia, 2; Pittsburg, ½.

Rhode Island: Block Island, 1; Newport, trace.

Tennessee: Nashville, ½; Chattanooga, trace.

Vermont: Woodstock, 3; Burlington, 1.

Virginia: Lynchburg, 1½; Accotink, 1.

West Virginia: Morgantown, 1½.

Wisconsin: Ripon, 3; Franklin, 2; Beloit, ½; Madison, ½; La Crosse, trace; Milwaukee, trace.

Wyoming: Fort Washakie, 2½.

SNOW FROM A CLOUDLESS SKY.

College Hill, Ohio, 29th: During the evening, for several hours, a fine sprinkling snow fell, when the stars were visible and all parts of the heavens were perfectly clear.

SLEET.

Newport, Rhode Island, 29th.

Lynchburg, Virginia, 26th.

Washington, District of Columbia, 13th.

Barnegat, New Jersey, 29th.

Augusta, Georgia, 21st.

Charlotte, North Carolina, 20th, 27th.

Cape Lookout, North Carolina, 21st.

Little Rock, Arkansas, 24th.

Memphis, Tennessee, 19th.

Chattanooga, Tennessee, 20th.

Champaign, Illinois, 25th.

Cincinnati, Ohio, 26th.

Pittsburg, Pennsylvania, 23d.

Detroit, Michigan, 23d.

Toledo, Ohio, 13th.

Cleveland, Ohio, 26th.

Buffalo, New York, 13th, 19th, 24th.

Duluth, Minnesota, 11th.

Alpena, Michigan, 22d.

Mackinac City, Michigan, 12th.

Moorhead, Minnesota, 6th, 15th.

Springfield, Illinois, 25th.

Dubuque, Iowa, 23d.

Keokuk, Iowa, 25th.

Leavenworth, Kansas, 16th, 17th.

Springfield, Missouri, 25th.

Cheyenne, Wyoming, 15th.

Fort Maginnis, Montana, 26th.

Coleman City, Texas, 18th, 19th.

Fort Davis, Texas, 18th.

Fort Verde, Arizona, 10th.

Umatilla, Oregon, 17th.

Auburn, Alabama, 25th.

Alexandria, Dakota, 11th.

Vevay, Indiana, 12th.

Rowe, Massachusetts, 13th.

Wellsborough, Pennsylvania, 25th.

Stateburg, South Carolina, 20th.

Aiken, South Carolina, 21st.

Snowville, Virginia, 28th.

Variety Mills, Virginia, 26th.

WINDS.

The prevailing direction of the winds during the month of November, 1882, at Signal Service stations, are shown on chart ii., by arrows flying with the wind. The prevailing winds along the Atlantic coast, from New England to Florida, are from northwest to northeast; in the upper lake region, the extreme northwest, and the upper Mississippi and Missouri valleys, they are generally northwesterly; in the Gulf states most are from the south; elsewhere throughout the country, they are variable.

TOTAL MOVEMENTS OF THE AIR.

[In miles.]

The following are the largest total movements at the Signal Service stations: On the summit of Mount Washington, New Hampshire, 21,708; Pike's Peak, Colorado, 15,302; Delaware Breakwater, Delaware, 13,583; Block Island, Rhode Island, 13,220; Kittyhawk, North Carolina, 12,991; Hatteras, North Carolina, 12,406; Cape May, New Jersey, 12,263; Sandy Hook, New Jersey, 10,944; Barragat, New Jersey, 10,635; Cape Henry, Virginia, 10,498; Indianola, Texas, 10,078; Port Eads, Louisiana, 10,062; Sandusky, Ohio, 9,836; Chincoteague, Virginia, 9,715; Fort Macon, North Carolina, 9,694; Eastport, Maine, 9,238; Key West, Florida, 8,976; Mackinac City, Michigan, 8,415; Fort Shaw, Montana, 8,098; Provincetown, Massachusetts, 8,087; Milwaukee, Wisconsin, 8,058. The smallest are: Visalia, California, 1,530; Roseburg, Oregon, 1,568; Fort Missoula, Montana, 1,885; Lynchburg, Virginia, 2,111; Lewiston, Idaho, 2,177; Olympia, Washington Territory, 2,289; Deadwood, Dakota, 2,301; Tucson, Arizona, 2,461; Boise City, Idaho, 2,601; Salt Lake City, Utah, 2,613; Spokane Falls, Washington Territory, 2,660; Fort Washakie, Wyoming, 2,753; El Paso, Texas, 2,873; Keokuk, Iowa, 2,898.

HIGH WINDS.

On the summit of Mount Washington, New Hampshire, velocities of 50 miles or more per hour occurred on all days during the month, with the exception of the following dates: 4th to 10th, 17th, 18th, 22d, 29th. The following were the highest velocities reported from this station: 87, nw., 1st; 76, nw., 11th; 81, sw., 13th; 88, nw., 20th; 98, nw., 25th (maximum for month); 88, nw., 26th.

On the summit of Pike's Peak, Colorado, the highest velocities were: 72, w., 2d; 62, sw., 3d; 72, sw., 4th; 59, sw., 5th;